

REMARKS

Prior to this communication, claims 1 – 23 and 25 were pending. In the present Office action, claims 1 – 23 and 25 were rejected, and the Specification and the Abstract were objected to. In response, Applicants have amended the Specification, the Abstract, and claims 1 – 23. Reconsideration and allowance of the claims in view of the amendments and remarks contained herein are respectfully requested.

Abstract Objections

The Abstract is objected to because “it should be written as one paragraph only and because terminology such as ‘said’ as in lines 2, 4 and should not be used.” (Office Action, Page 2.)

The Abstract has been amended to include one paragraph, and to replace “said” with “the.” Withdrawal of the objection is respectfully requested.

Specification Objections

The error on page 1, line 16 has been corrected. Withdrawal of the objection is respectfully requested.

112 Rejections

Claims 9, 11, and 16 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Particularly, the Examiner indicated that claim 9 lacks antecedent basis, claim 11 is unclear, and claim 16 lacks antecedent basis.

Claims 9, 11, and 16 have been amended. Particularly, claim 9 has been amended to include “an end thereof.” Claim 11 has been amended to include “contactors seal.” Claim 16 has been amended to include “the sensor includes a body.” Accordingly, Applicants respectfully request withdrawal of the rejections.

102 Rejections

Claims 1 – 6, 12 – 16, 21 – 23, and 25 stand rejected under U.S.C. § 102(b) as being anticipated by U.S. Patent Number 6,203,204 (“Carmichael”).

Amended Claim 1 recites a “system for attachment of an information sensor” that includes “a cap” that includes “at least one device for attachment of the sensor to an internal surface of said cap,” “said attachment device being integral with the internal surface,” and wherein “said cap comprises a single integrated piece,” among other things.

Carmichael does not teach or suggest at least the above limitations of Claim 1. Rather, Carmichael discloses, with respect to FIGS. 1 – 3, “a wheel bearing assembly 10 that generally includes a wheel bearing outer ring 12, a wheel bearing inner ring 14, bearing balls 16, a nut 17 and a wheel bearing cap 20. A wheel axle 18 is seated within wheel bearing inner ring 14.” (Col. 2, lines 39 – 43.) With respect to FIG. 3, Carmichael discloses that because “**sensor element 38 is molded to wheel bearing cap 20**, a reduction in components is achieved, translating into a reduction of costs. Further, circuit 44, electrical leads 48 and electrical terminals 46 are advantageously protected as those components are integrally molded inwardly from internal and external surfaces of the wheel bearing cap 20, thereby eliminating dust and other contaminants from damaging the sensor element 38.” (Col. 4, lines 6 – 13, emphasis added.) As such, the sensor disclosed in Carmichael is integrally molded with the cap, and the cap thus lacks a “device for attachment of the sensor,” as recited in Claim 1.

Accordingly, independent Claim 1 and dependent Claims 2 – 23 and 25 are patentable over Carmichael for at least the reasons set forth above. Claims 1 – 23 and 25 are therefore allowable.

Claims 1 – 19 and 21 – 23 stand rejected under U.S.C. § 102(b) as being anticipated by U.S. Patent Number 6,422,075 (“Foster”).

Foster does not teach or suggest at least a “system for attachment of an information sensor” that includes “a cap” that includes “at least one device for attachment of the sensor to

an internal surface of said cap,” “said attachment device being integral with the internal surface,” and wherein “said cap comprises a single integrated piece,” as recited in Claim 1.

Rather, Foster discloses a sensor package that “can include a thermoplastic body 1 including a metal mounting ring 2. A pair of connector terminals 3, 4 may be located in an upper portion of the body 1. A plastic insert 5 can receive the terminals 3, 4 in an upper portion. Opposite the upper end of the plastic insert 5, the active sensor package or element 7, can be received in a lower end of the plastic insert.” (Col. 3, lines 16 – 22.) With respect to FIG. 2, Foster discloses that a “small tab 5C provides a positive stop of the slot 7A on the top of the sensor element package. Additionally, the flat 7B on the sensor element package aligns with the flat 5D on the plastic insert.” (Col. 3, lines 59 – 62.) Foster also discloses that “[t]he sensor package can be mated to the bearing hub 11 by a press fit with the pilot diameter 2A of the metal ring 2.” (Col. 3, lines 38 – 40, emphasis added.) Thus, Foster discloses a sensor that is to be connected to a sensor package, which is in turn to be press fit with a ring. As such, Foster lacks a cap having an attachment device that is “integral with the internal surface” of the cap, and wherein the “cap comprises a single integrated piece,” as recited in Claim 1.

Accordingly, independent Claim 1 and dependent Claims 2 – 23 and 25 are patentable over Foster for at least the reasons set forth above. Claims 1 – 23 and 25 are therefore allowable.

Claims 1, 21, 21 – 23, and 25 stand rejected under U.S.C. § 102(b) as being anticipated by U.S. Patent Number 5,938,346 (“Ouchi”).

Ouchi does not teach or suggest a “system for attachment of an information sensor” that includes “a cap” that includes “at least one device for attachment of the sensor to an internal surface of said cap,” “said attachment device being integral with the internal surface,” and wherein “said cap comprises a single integrated piece,” as recited in Claim 1. Rather, Ouchi discloses that an “annular synthetic resin block 30 with a **sensor 13a embedded therein**, is fixedly retained on the inside of the intermediate diameter portion 29.” (Col. 5, lines 11 – 14, emphasis added.) As such, Ouchi discloses a sensor that is embedded in the ring, rather than a cap having a “device for attachment of the sensor,” as recited in Claim 1.

Accordingly, independent Claim 1 and dependent Claims 2 – 23 and 25 are patentable over Ouchi for at least the reasons set forth above. Claims 1 – 23 and 25 are therefore allowable.

103 Rejections

Claim 20 stands rejected under U.S.C. § 103(a) as being unpatentable over Carmichael in view of U.S. Patent Number 5,756,894 (“Paolo”).

Paolo does not cure the deficiencies of Carmichael discussed above in connection with Claim 1.

Rather, Paolo discloses, with respect to FIG. 2, a rolling contact bearing having an inner race 10, an outer race 11, “a rotating impulse ring 12 and a gauging sensor 13, integral with the inner rotating race 10 and the stationary outer race 11 of the bearing, respectively. In normal operation conditions, the sensor 13 faces the impulse ring 12” (Col. 2, lines 50 – 55.) With regard to the sensor 13, Paolo discloses that the “sensor 13 is detachably mounted to housing 16. The sensor is integrated with the body of a connector 17 electrically connected to a data processing unit (not shown) through a cable 14.” (Col. 2, lines 59 – 62.) As such, Paolo does not teach or suggest a “system for attachment of an information sensor” that includes “a cap” that includes “at least one device for attachment of the sensor to an internal surface of said cap,” “said attachment device being integral with the internal surface,” as recited in Claim 1.

Accordingly, neither Carmichael nor Paolo, either alone or in combination, teaches or suggests all limitations of Claim 1. Independent Claim 1 therefore is patentable. Claim 20, which depends from Claim 1, is patentable for at least the above reasons.

CONCLUSION

Entry of the Amendment and allowance of claims 1 – 23 and 25 are respectfully requested. The undersigned is available for telephone consultation at the number below.

Respectfully submitted,



Carlo M. Cotrone
Reg. No. 48,715

File No. 085488-9116
Michael Best & Friedrich LLP
100 East Wisconsin Avenue
Suite 3300
Milwaukee, Wisconsin 53202-4108
414.271.6560
X:\CLIENTB\085488\9116\A1715551.3